

Appln No. 09/995,483

Amdt date January 30, 2004

Reply to Office action of October 30, 2003

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Cancel claims 2, 43-47 and 50-56.

Amend claims 18, 22, 23, 25-27, 29, 30, 48 and 49 and add new claims 58-81 as follows:

18. (Third Amendment) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall; and

a groove formed on the inner surface of the top portion wherein when the cap is threaded onto the bottle neck, the groove extends outwardly beyond two locations of the rim of the bottle neck providing a pathway for gas generated in the bottle to escape across the bottle neck mouth and through the gas path.

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22. (Twice Amended) A method for venting gases generated in a bottle having a rim defining a mouth and containing a liquid, the method comprising:

providing a cap having a top portion, a plurality of circular ridges formed on an inner surface of the top portion and a slot formed across each of said plurality of ridges; and

torquing the cap on the bottle causing the plurality of ridges to sit on the rim, wherein the plurality of slots provide a pathway for the [vending] venting of gases.

23. (Amended) A method as recited in claim 22 further comprising [the steps of]:

venting gas in the bottle through at least one of the slots  
forcing liquid in the slot after venting; and

solidifying the liquid to block the pathway through at least one of said slots.

25. (Twice Amended) A method as recited in claim 24 further comprising:

venting gas in the bottle through the groove;  
forcing liquid in the groove after venting; and

solidifying the liquid to block the pathway through the groove.

26. (Twice Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

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a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a circular ridge formed on the second surface of the disc; and

a [slot] plurality of slots formed across the ridge, wherein when the cap is threaded onto the bottle neck, the ridge sits on the bottle neck rim and the [slot forms a pathway] slots form pathways for any gas generated in the bottle to escape across the bottle neck rim [and through the gas path].

27. (Amended) A vented bottle cap system [as recited in claim 26] comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the

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outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a circular ridge formed on the second surface of the disc;  
and

a plurality of concentric ridges formed in the second surface of the disc, wherein when the cap is threaded onto the bottle neck, the plurality of ridges contact the bottle neck rim; and

at least a slot in each ridge.

29. (Amended) A vented bottle cap system [as recited in claim 26 further] comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least semi-hard fitted over the top portion inner surface, the disc having a first

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surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a circular ridge formed on the second surface of the disc;

a slot formed across the ridge; and

a liner fitted in the cap over the disc and having a hole through its thickness, wherein when the cap is threaded onto the bottle neck, the liner is sandwiched between the ridge and the rim and wherein gases generated in the bottle escape through the hole, through the slot and through the gas path.

30. (Amended) A vented bottle cap system as recited in claim [26] 27 wherein the disc is made from plastic.

48. (Amended) An insert [as recited in claim 47] having an annular section for use with cap for capping a bottle having a rim defining a bottle mouth, the insert allowing for the venting of gases generated in a bottle when the cap is capping the bottle, the annular section defining an opening and comprising:

a first surface opposite a second surface; and

a groove formed on the first surface, wherein when the cap is capping the bottle, the groove extends beyond two locations on the rim, wherein the insert opening extends through the insert, and wherein the insert opening is located centrally through the insert.

49. (Amended) An insert [as recited in claim 47] having an annular section for use with cap for capping a bottle having a rim defining a bottle mouth, the insert allowing for the venting

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of gases generated in a bottle when the cap is capping the bottle, the annular section defining an opening and comprising:

a first surface opposite a second surface; and

a groove formed on the first surface, wherein when the cap is capping the bottle, the groove extends beyond two locations on the rim, wherein the opening extends through the insert, and wherein the insert is made of plastic.

58. (New) An insert as recited in claim 48 wherein when the cap is capping the bottle the groove extends beyond two locations external of the rim.

59. (New) An insert as recited in claim 49 wherein when the cap is capping the bottle the groove extends beyond two locations external of the rim.

60. (New) An insert having an annular section for use with a cap for capping a bottle having a rim defining a bottle mouth, the insert allowing for the venting of gases generated in a bottle when the cap is capping the bottle, the annular section defining an opening and comprising:

a first surface opposite a second surface; and

a gas path defined across the first surface, said gas path comprising a plurality of interconnected slots staggered relative to each other.

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61. (New) An insert as recited in claim 60 wherein the gas generated in the bottle travels through the opening and to the path.

62. (New) An insert as recited in claim 60 wherein the gas path extends to the opening.

63. (New) An insert as recited in claim 60 wherein a second gas path is defined across the first surface, said second gas path comprising a plurality of slots staggered relative to each other, wherein gases generated in the bottle are vented to a location external of the bottle via said second gas path.

64. (New) An insert as recited in claim 63 wherein both gas paths extend to the opening.

65. (New) An insert as recited in claim 60 wherein the opening is formed centrally through the insert.

66. (New) An insert as recited in claim 60 wherein the insert is made of plastic.

67. (New) A vented bottle cap system comprising:  
a bottle having a neck having a rim defining a mouth;  
a cap having a top portion having an inner surface and  
an annular wall having an inner surface and extending from the  
top portion, wherein when the cap is capping the bottle neck a

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first gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a venting member sandwiched between the cap inner surface and the rim, the venting member having an annular section defining an opening extending through the venting member, the annular section having a first surface opposite a second surface; and

a second gas path defined across the first surface, said second gas path comprising a plurality of interconnected slots staggered relative to each other, wherein gas in the bottle escapes via the second gas path to the first gas path.

68. (New) A system as recite in claim 67 wherein the first gas path extends to the opening.

69. (New) A system as recited in claim 67 wherein the venting member further comprises a third gas path defined across the first surface, said third gas path comprising a plurality of interconnected slots staggered relative to each other, wherein gas from the bottle escapes via the third gas path to the first gas path.

70. (New) A system as recited in claim 69 wherein both the second and third gas paths extend to the opening.

71. (New) A system as recited in claim 67 wherein the venting member is made of a material being at least semi-hard.



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72. (New) A system as recited in claim 67 wherein the first surface faces the inner surface.

73. (New) A bottle cap comprising:  
a top portion having an inner surface;  
an annular wall extending from the top portion;  
an annular projection projecting from the inner surface; and  
a gas flow path defined across the annular projection, the gas flow path comprising a plurality of interconnected slots staggered relative to each other.

74. (New) A bottle cap as recited in claim 73 further comprising a second gas flow path defined across the annular projection, the second gas flow path comprising a plurality of interconnected slots staggered relative to each other.

75. (New) A bottle cap as recited in claim 73 wherein the annular projection comprises a plurality of spaced apart annular ridges.

76. (New) A vented bottle cap system comprising:  
a bottle having a neck having a rim defining a mouth;  
a cap having a top portion having an inner surface and an annular wall extending from the top portion, wherein when the cap is capping the bottle neck a first gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

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an annular projection projecting from the inner surface and seating over the rim when the cap is capping the bottle neck; and

a second gas path defined across the annular projection, wherein gas in the bottle escapes via the second gas path to the first gas path.

77. (New) A system as recited in claim 76 wherein the second gas flow path comprises a plurality of interconnected slots staggered relative to each other.

78. (New) A bottle cap as recited in claim 76 wherein the annular projection comprises a plurality of spaced apart annular ridges.

79. (New) A vented bottle cap system comprising:  
a bottle having a neck having a rim defining a mouth;  
a cap having a top portion having an inner surface and an annular wall having an inner surface and extending from the top portion, wherein when the cap is capping the bottle neck a first gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall; and

a second gas path defined across the inner surface of the cap top portion, said second gas path comprising a plurality of interconnected slots staggered relative to each other, wherein gas in the bottle escapes via the second gas path to the first gas path.

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80. (New) A system as recited in claim 79 wherein a projection projects from the inner surface of the cap top portion for seating over the rim, and wherein the second gas path is formed across the projection.

81. (New) A system as recited in claim 80 wherein the projection comprises a plurality of spaced apart concentric annular ridges.